

# DESIGN AND CONSTRUCTION GUIDELINES AND STANDARDS

DIVISION 31 • EARTHWORK

## 31 00 00 EARTHWORK

### SECTION INCLUDES

Excavation and Fill  
Tree Protection  
Dewatering

### RELATED SECTIONS

03 30 00 Site Utilities  
02 90 00 Landscaping  
02 28 00 Soil Treatment  
03 30 00 Concrete  
07 11 00 Waterproofing and Dampproofing  
07 20 00 Building Insulation  
32 10 00 Paving

### TECHNICAL STANDARDS

#### EXCAVATION AND FILL

##### MATERIALS

For most backfill conditions, ordinary fill will do the job. Using structural fill may be excessive. Ideally, the material should be locally available. Use drainage fill at perimeter drain lines at basements.

Organic fill materials are unacceptable. Avoid fly ash as a fill material because it may leach into the water table.

##### DESIGN

Clearly indicate the extent of all excavation work, including:

- ☐ the quantity of ledge and boulders that can reasonably be expected to be encountered.
- ☐ ledge and boulder excavation in the open and in trenches

Include engineered profiles on the drawings to indicate the amount of excavation included in the contract.

Prepare a comprehensive list of unit prices for fill and removing ledge and unsuitable materials. Unit prices should reflect the actual cost of doing the work. Research by calling suppliers and obtaining prices for the area and the time of year, and keep a record of how unit prices are determined. Coordinate specified fill materials with unit items. Indicate that unit price work will be measured on a compacted-in-place at maximum dry density basis.

Excavation unit prices should state whether disposal of material is to a location on or off site.

When blasting is necessary to remove ledge, test comprehensively to determine the extent of material to be removed.

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### EXECUTION

The Contractor must comply with all federal, state, and local codes and regulations regarding blasting.

### TREE PROTECTION

#### Design

Indicate in the contract documents the trees that are to remain and be protected.

#### Execution

Flag and fence off trees identified to be retained. The Contractor is responsible for replacing protected trees that are damaged.

### DEWATERING

#### DESIGN

Analyze sub-surface conditions to determine the need for dewatering. Include dewatering in the specifications if necessary.

Specify to what your expectations are, if you leave it up to the Contractor you should expect the minimum which could impact the quality of the work.